

# R&S®OSM-Wizard

## OpenStreetMap-Wizard

### Manual



3029.8315.02 – 03

This document describes the following R&S® products:

- R&S®MV-OSMWIZ (3029.8315.02)

It is valid for R&S®RAMON version 5.16

R&S®OSM-Wizard is a tool intended for the purpose of downloading OpenStreetMap tiles from the OpenStreetMap server.

OpenStreetMap is a free and editable world map ([http://wiki.openstreetmap.org/wiki/Main\\_Page](http://wiki.openstreetmap.org/wiki/Main_Page)).

OpenStreetMap data can be used freely under the terms of the Creative Commons Attribution-ShareAlike 2.0 license .

R&S®OSM-Wizard is capable of downloading OSM tiles which are each specified by a particular combination of area and zoom level.

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Throughout this manual, R&S® is abbreviated as R&S. For example, R&S®RAMON is abbreviated as R&S RAMON.

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# 1 Introduction

## 1.1 Copyright

This document contains proprietary information to Rohde & Schwarz and shall not be used, disclosed and/or duplicated, printed or copied except in accordance with express written authorization from Rohde & Schwarz.

## 1.2 System Requirements

Before you install the software, verify that your computer meets the minimum system requirements defined in [Table 1-1](#).

**Table 1-1: Minimum system requirements**

Hardware/Software	Required
CPU	Intel® Core™ i5 CPU
Operating system	Windows 10
RAM	4 GB without database, 16 GB with database
Disk space	2 GB without database, 20 GB with database
Graphics card	at least OpenGL® 2.1 or later compatible
LAN adapter	1 Gbit/s, RJ-45 connector
NOTES: Intel® is a trademark of Intel Corporation or its subsidiaries in the US and/or other countries. OpenGL® and the oval logo are trademarks or registered trademarks of Silicon Graphics Inc. in the United States and/or other countries worldwide.	



### R&S RAMON Workstation/Server

A typical R&S RAMON workstation or server consists of several separate software products. The system requirements for such combinations typically exceed those stated here.

## 1.3 Documentation

The R&S OpenStreetMap-Wizard is abbreviated in this document as R&S OSM-Wizard.

### 1.3.1 Disclaimer

Every effort has been made by Rohde & Schwarz to make sure that the information contained within this document is accurate and correct. However, slight differences may exist between the documentation and particular installations.

The screenshots within this document may show features that are only available with a certain option.

The contents of screenshots are intended as examples only.

### 1.3.2 Conventions

The following elements are used in this document.



#### Tip

Tips give hints such as how to produce more accurate results or optimize calculation speed.



#### Hint

Points out important points to be considered.

#### NOTICE

#### Notice

Hints to possibly unexpected program behavior.



#### CAUTION

#### Caution

Indicates situations where data loss may occur.

### 1.3.3 Typographical Conventions

The following text markers are used in this document:

**Table 1-2: Typographical conventions**

Convention	Description
"Graphical user interface elements"	All names of graphical user interface elements on the screen, such as dialog boxes, menus, options, buttons and softkeys are enclosed by quotation marks.
KEYS	Key names are written in capital letters.

Convention	Description
Filenames and commands	Filenames, commands and screen output are distinguished by their font.
<i>input</i>	Input to be entered by the user is displayed in italics.
<a href="#">Links</a>	Links that you can click are displayed in blue font.
"References"	References to other parts of the document are enclosed by quotation marks.

## 2 Preparation for Use

### 2.1 Installation

1. Insert the supplied setup CD into an available CD drive.
2. Run “setup.exe” from directory “..\OSMWizard” on the CD.
3. Start the installation using the default settings.



## 3 Operation

Start the R&S OSM-Wizard by selecting “Start → All Programs → R&S OSM-Wizard → OSM\_Wizard”.



Use of the R&S OSM-Wizard requires a functioning internet connection.

If you are connected to the internet via a proxy server, you will be prompted to enter a user name and password. You may have to change the proxy port if port 80 is not used by your proxy.

Connect to proxy-emea.rsint.net

The server proxy-emea.rsint.net requires a username and password.

User name:  Password:  Port:

☒ use this proxy ☒ save credentials

OK Cancel

**Figure 3-1: Connect to proxy dialog box**

It is possible that both a direct and a proxy based connection are available at the same time. In this case, the direct connection will be used if the "use this proxy" checkbox is left unchecked.

The R&S OSM-Wizard starts with the following screen:

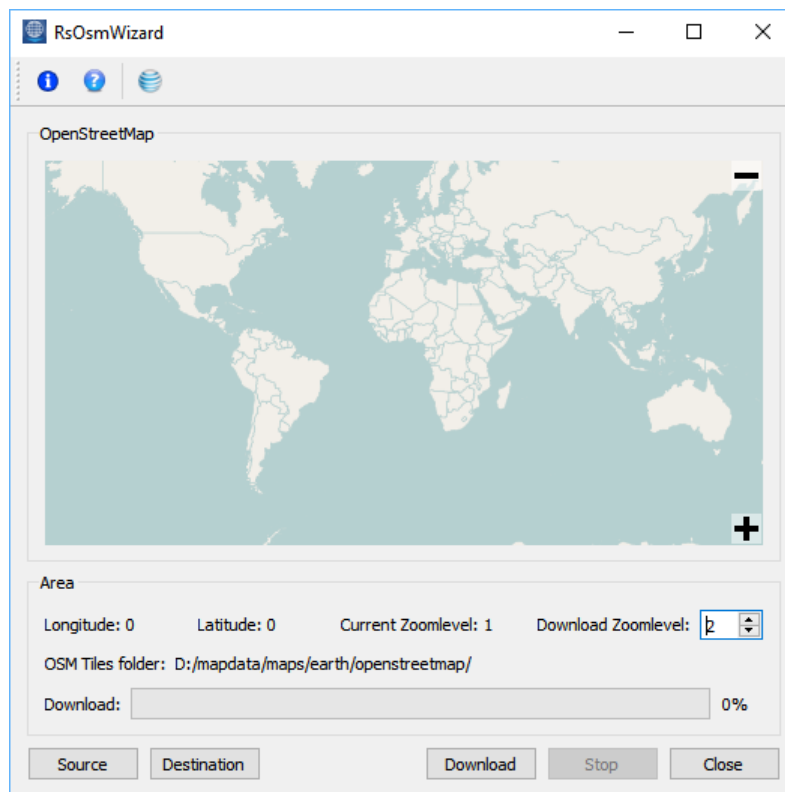


Figure 3-2: R&S OSM-Wizard main window

## 3.1 Map Navigation

- **Zoom in/out**  
Left mouse click on +/- buttons  
Mouse wheel up/down
- **Pan the map**  
Hold the left mouse button while dragging the mouse

## 3.2 Area Section

- **Longitude/Latitude**  
Displays center coordinates of the current map area
- **Current Zoomlevel**  
Displays zoom level of the current map area
- **Download Zoomlevel**  
Use this to set the "Download Zoomlevel" level range

The "Zoomlevel" is adjustable from levels 1 to 18.



In a scenario where, for example, the "Current Zoomlevel" is set to 10 and a "Download Zoomlevel" of 14 is subsequently selected, the OSM tiles from "Zoomlevels" 10,11,12,13 and 14 within the current map area will be stored on disk.

**Limitation:** In order to avoid huge downloads, which are not permitted by the OpenStreetMap server, setting wide map areas and deep zoom ranges is not possible. For example, if a "Current Zoomlevel" of 10 is set then "Download Zoomlevel" may only be increased to 14.

### 3.3 Downloading OSM Tiles

1. Navigate to the map area corresponding to the tiles which you intend to download. (Use "ZoomIn", "ZoomOut" and/or Panning Map).
2. Set "Download Zoomlevel".
3. Use the "Destination" button to specify the folder location where the OSM tiles should be downloaded to. By default this is the OSMWizard installation folder. You may specify a custom folder, e.g. "Munich". All OSM tiles will be stored according to the OSM folder structure.
4. (Optional)  
Click the "Source" button to specify your download server, by default the "Mapnik" server is defined. For regular configurations it should not be necessary to modify this field.

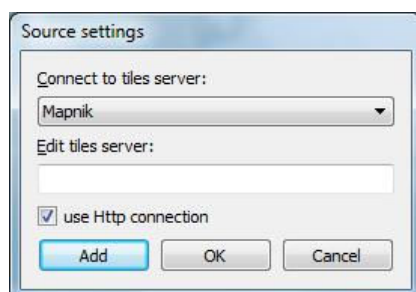


Figure 3-3: Source settings dialog box

5. Click the "Download" button to start: All tiles will be stored within the OSM tiles folder (click the "Stop" button to cancel the download).

### 3.4 Downloading Map Tiles from a User Defined Server

In order to use a custom user defined server, edit the server name and tiles path within the "Edit tiles server" field and then click "Add" to append this server to the server list.

**Example:**

*http://myServer/osm/tiles* //OSM tiles are stored in folder: **osm/tiles/** on host: **myServer**

From the tiles server listbox, select user defined server and click "OK" to proceed.



Downloads from a user defined server will only work with a TMS server where map tiles are specified by: [zoomLevel]/[latitudeIndex]/[longitudeIndex]

### 3.5 Copying Map Tiles

Alternatively, tiles can be copied from a network resource. To do this, uncheck the "use Http connection" checkbox, edit the network folder location field and click "Ok" to start copying.

**Hint:** If you wish to create some OSM city maps, please follow these steps:

1. Create the necessary folders (e.g. Munich, Berlin, Hamburg)
2. Set the corresponding map area
3. Define "Zoomlevel" and set the corresponding OSM Tiles folder
4. Start the download

Repeat these steps for each subsequent city.

While different city maps may be associated with the same "Zoomlevel" folder or even the same Longitude index folder, they each possess unique Latitude indices (i.e. tile name index).

### 3.6 Transferring OSM Tiles to the Device

In order to use the OSM tiles with devices e.g. the ESMD or DDF255, the OSM tiles must be prepared before loading onto the device:

1. Open a file explorer and go to the folder you specified in RsOsmWizard.
2. Select all the folders and the `map.prj` file in the folder. Note that folder names are all numeric, ranging from the minimum to the maximum zoom level, e.g. 6, 7, 8, 9, 10.

<input type="checkbox"/> Name	Size	Type
6		File folder
7		File folder
8		File folder
9		File folder
10		File folder
map.prj	1 KB	PRJ File

Figure 3-4: Folders structure

3. Compress all the selected folders into zip format, e.g. *7-Zip*, *WinZip* or *PowerArchiver*. Take note that the maximum supported size of the zip file is 1 GB.
4. Copy the zip file to the USB flash drive and insert the USB flash drive in the destination.
5. Use the "FILE Import" function to load the zip file into the device.
6. Select layout showing "Map Panel", focus "Map Panel", open "Map Config" dialog and load the zipped map tiles.

### 3.7 Background Information on OSM Tiles

OSM is a raster map organized by zoom levels (1 – 18); each zoom level consists of indexed folders within which the indexed tiles are stored.

The folder and tile name indices correspond to longitude and latitude, respectively.

The OSM folder structure is as follows:

openstreetmap (root) / 3 (Zoom level) / 4 (longitude index) / 2.png (latitude index)

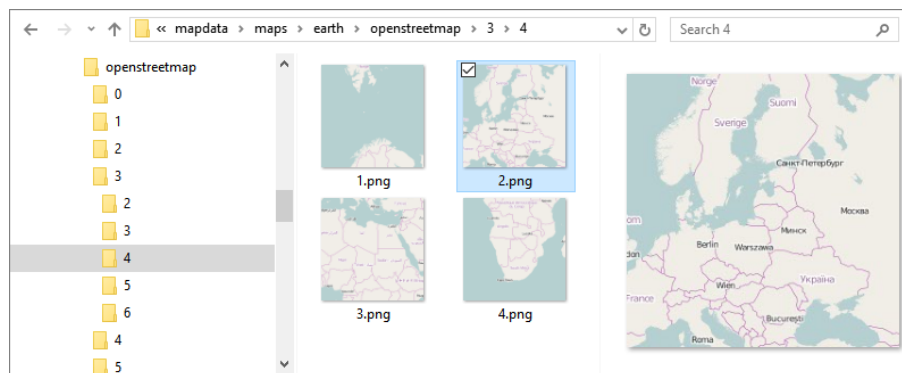


Figure 3-5: OSM structure